

## Claims

1. A device (1) for transmitting or receiving electromagnetic waves in a cavity (3), comprising a loop (10) and a dielectric part (9) that houses at least a first end part (11) of the loop (10), where the dielectric part (9) defines a first recess (37) arranged to receive a means (30) for setting the capacitance between the loop (10) and an earthed casing (2), cavity housing (5) or cover (6) and where the loop (10) is embedded in the dielectric part (9) at the first end part (11).
2. A device (1) according to Claim 1, where the loop (10) comprises an essentially flat section that is designed for a predetermined frequency.
3. A device (1) according to Claim 2, where the flat section is located in the first recess (37) and the flat section has an essentially flat first area (32) that is designed to be turned towards the means (30) for setting the capacitance.
4. A device (1) according to Claim 3, where the flat section has an essentially flat second area (47) that is parallel to the first area (32) and the first recess (37) is continuous in order to be able to receive the means for setting the capacitance from two directions.
5. A device (1) according to Claim 3, where the dielectric part (9) comprises a bottom surface of the first recess, which bottom surface covers the flat section from a first direction, in order to prevent the means (30) for setting the capacitance coming into galvanic contact with the loop (10) and to prevent electrical flash-over between the loop (10) and the means (30) for setting the capacitance.
6. A device (1) according to Claim 5, where the dielectric part (9) comprises a recess (48) essentially reversed in relation to the first recess (37), with a bottom surface that covers the flat section from an opposite direction to the first direction.
7. A device (1) according to Claim 1, where the first end part (11) has an essentially straight longitudinal axis and the first recess (37) is turned essentially at right angles to this longitudinal axis.

8. A device (1) according to Claim 1, where the first recess (37) is turned essentially at right angles to the main plane of the loop (10).

9. A device (1) according to Claim 1, comprising at least one rib (40) that is inserted in the first recess (37) to make contact with the means (30) for setting the capacitance.

10. A device (1) according to Claim 1, comprising at least one stop pin (41) projecting into the first recess (37) in order to prevent the means (30) for setting the capacitance from coming into galvanic contact with the loop (10) and to prevent electrical flash-over between the loop (10) and the means (30) for setting the capacitance.

11. A device (1) according to Claim 1, where the dielectric part (9) houses a second end part (13) of the loop (10).

12. A device (1) according to Claim 11, where the second end part (13) is essentially parallel to the first end part (11).

13. A device (1) according to Claim 11, where at least one of the first end part (11) and the second end part (13) is milled in order to provide good fixing of the loop (10) in the dielectric part (9).

14. A device (1) according to Claim 11, where the dielectric part (9) is designed to provide a particular impedance to the earthed casing (2), cavity housing (5) or cover (6), together with the loop (10).

15. A device (1) according to Claim 1, where the dielectric part (9) comprises a locking device (23).

16. A device (1) according to Claim 1, where the dielectric part (9) comprises a fixing hole (29) designed to receive a fixing element for fixing the device (1) to a casing (2), cavity housing (5) or cover (6).

17. A device (1) according to Claim 1, where the dielectric part (9) comprises at least one second recess (38).

18. A method for manufacturing a device (1) according to Claim 1, comprising the steps of:  
determining the length of a loop (10) that is to be inserted at least partially into a cavity (3);  
forming, for example by stamping, an essentially flat area (32) that is designed for a  
particular frequency; and at least partially embedding a first end part (11) of the loop (10) in a  
5 dielectric part (9), which is so formed that together with the loop (10) it provides a particular  
impedance to an earthed casing (2), cavity housing (5) or cover (6).

19. A method according to Claim 18, comprising the steps of milling at least one of the first  
end part (11) and a second end part (13) in order to provide a better fixing of the loop (10) in  
10 the dielectric part (9), and at least partially embedding the second end part (13) of the loop  
(10) in the dielectric part (9).

20. A method for manufacturing a loop (10) for a device (1) according to Claim 1,  
comprising the steps of: determining the length of a loop (10) that is to be inserted at least  
15 partially into a cavity (3) and forming, for example by stamping, an essentially flat area (32)  
that is designed for a particular frequency.

21. A method according to Claim 20, comprising the step of milling at least one of a first end  
part (11) and a second end part (13) in order to provide a better fixing of the loop (10) in the  
20 dielectric part (9).

22. A casing (2) for electric and/or electronic components, comprising a device (1) according  
to Claim 1 and at least one opening (18, 19) for receiving the device (1).

23. A casing (2) according to Claim 22, comprising at least one flange (20, 21) that has a  
recess or through-hole (22) to receive a locking device (23), a first threaded hole (27)  
designed to receive a fixing element for fixing the device (1) to the casing (2) and a second  
threaded hole (28) designed to receive a means (30) for setting the capacitance between a  
loop (10) and the casing (2).

24. A cavity filter (4) comprising a cavity (3) and a device (1) according to Claim 1.